

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method of manufacturing a holder-mounted optical element, comprising:

disposing cylindrical holder material in a press forming die, the cylindrical holder material having a thin deformable portion;

providing an optical element material comprising an initial volume of the optical element material and a surplus volume of the optical element material inside the cylindrical holder material;

heating the cylindrical holder material, the initial volume of the optical element material, and the surplus volume of the optical element material, to their respective softening temperatures;

press forming the cylindrical holder material, the initial volume of the optical element material and the surplus volume of the optical element material;

the press forming configured to form a cylindrical holder from the cylindrical holder material, and configured to form an optical element from the optical element material;

the press forming configured to integrate the optical element inside the cylindrical holder by applying a pressing force to the optical element material to cause the optical element material to expand outwardly in a convex shape and deform the deformable portion; and

wherein the deformable portion is configured to receive a second volume of optical element material that corresponds to the surplus volume of the optical element material so that the optical element contains a first volume of optical element material that corresponds corresponding to the initial volume of the optical element material.

2. (Original) The method of manufacturing a holder-mounted optical element according to Claim 1,

wherein reference surfaces for installation of the holder-mounted optical element in an optical axis direction and a radial direction are formed as a holder outer shape by press formation of the holder material.

3. (Previously Presented) The method of manufacturing a holder-mounted optical element according to Claim 1,

wherein the surplus volume of the optical material is previously added in a precision manner to the initial volume of the optical material required for formation of the optical element.

4. (Previously Presented) The method of manufacturing a holder-mounted optical element according to Claim 1,

wherein a side portion of the holder material is made thin and is deformable, and an inside portion of the deformable portion is deformed outwardly by the optical element material under pressure.

5. (Previously Presented) The method of manufacturing a holder-mounted optical element according to Claim 1,

wherein a thin collar portion is formed on an inner circumferential side of the holder and serves as the deformable portion, and a portion near an inside tip portion of the deformable portion is pressed by the optical element material.